MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT
PROPOSED TITLE V OPERATING PERMIT TV 44-04

24580 Silver Cloud Court
Monterey, CA 93940
Telephone: (831) 647-9411

ISSUED TO:

AERA Energy LLC
P.O. Box 11164
Bakersfield, CA 93389-1164

PLANT SITE LOCATION:

66893 Sargent Canyon Road
San Ardo, CA 93450

ISSUED BY:

_____ _____
Richard Stedman, Air Pollution Control Officer Effective Date

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Nature of Business: Crude Oil Production

SIC Codes: 1311 - Crude Petroleum and Natural Gas

RESPONSIBLE OFFICIAL:

Name: Mr. W. J. Dittman
Title: Vice President Operations
Phone: (661) 665-5417

ALTERNATIVE RESPONSIBLE OFFICIALS:

Name: Mr. K. A. Peck
Title: Operations Manager

Name: Mr. M. L. Du Frene
Title: Process Supervisor

FACILITY CONTACT PERSON:

Name: Mr. Tim Parcel
Title: Environmental Advisor
Phone: (831) 385-7704 or (559) 935-7418

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FACILITY DESCRIPTION

AERA Energy LLC operates a crude oil production facility in the San Ardo Field in Southern Monterey County. AERA's operation includes both primary and tertiary crude oil production wells.

These production wells are supported by several categories of equipment necessary to recover heavy crude oil from the production zones. These categories include: 1) steam generators; 2) a cogeneration plant; 3) produced crude oil storage tanks; 4) oil and water separation equipment including heater treaters, free water knockout vessels, induced gas flotation units, skim tanks, produced water tanks, and sand basins; 5) well head casing vent vapor collection system including SulFerox Desulfurization Unit; 6) Recovery Gas Treatment Plant; 7) gasoline dispensing; and 8) crude oil drilling/workover rigs.

AERA's facility is considered a federal Major Source and subject to the Title V permitting program due to the potential to emit oxides of nitrogen (NO_x) and sulfur dioxide (SO_2).

EQUIPMENT DESCRIPTION

OIL PRODUCTION FACILITY CONSISTING OF:

1. Oil Recovery And Steam Injection Wells.

2. Drilling Rigs With Diesel Fired Internal Combustion Engines.

3. Cogeneration Facilities, Three Units (Cogen A, B & C) Each Consisting Of:

    a) Solar Centaur T-4501 Gas Turbine, Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant, Rated At 61.5 MMBtu/Hr Maximum Heat Input And 3.2 MW Electrical Output, Evaporative Cooler On Turbine Inlet, Water Injection For NO_x Control (0.5 Lbm H_2O/Lbm Fuel).

    b) Heat Recovery Steam Generator With Duct Burner Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant, 38.7 MMBtu/Hr Maximum Heat Input, Steam Output Rating: 57,180 Lbs/Hr @ 1054 psia and 551°F.

    c) NOx Abatement System, Zeolite Catalyst And Ammonia Injection System.

4. Two Steam Generators (Identification Numbers 30-12 And 30-13), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant , 62.5 MMBtu/Hr Maximum Heat Input.

5. Nine Steam Generators (Identification Numbers 22-1 Through 22-4, And 30-1 Through 30-5), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant , 85 MMBtu/Hr Maximum Heat Input.

6. Two Steam Generators With Packed Tower Scrubber System (Identification Numbers 30-6 And 30-10A), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant And/Or Produced Gas Which Bypasses The Desulfurization Plant, 62.5 MMBtu/Hr Maximum Heat Input.

7. One Steam Generator With Three Tray Scrubber System (Identification Number 30-9), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant And/Or Produced Gas Which Bypasses The Desulfurization Plant, 62.5 MMBtu/Hr Maximum Heat Input.

8. Casing Gas Processing Plant Including SulFerox Desulfurization Unit With A Design Capacity Of 5.0 MM Scf/Day.

9. Five Crude Oil Heater Treaters (Identification Numbers CTB-1 Through CTB-5), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant With Number 6 Fuel Oil Standby, Each Unit Equipped With Two Burners, Each Burner Has A Maximum Heat Input Rating Of 6.3 MMBtu/Hr.

10. Two Crude Oil Heater Treaters (Identification Numbers CTB-7 And CTB-8), Fired On Natural Gas And/Or Produced Gas Treated By The Desulfurization Plant, Each Unit Equipped With Two Burners, Each Burner Has A Maximum Heat Input Rating Of 6.3 MMBtu/Hr.

11. Recovery Gas Treatment Plant Including Sulfatreat Vessels And Enclosed Ground Flare.

12. Oil Treating Facility Including Truck Loadout.

13. Waste Water Facility Including Water Reclamation Plant.

14. Gasoline Dispensing Facility.

15. Laboratory Fume Hood.

PERMIT SHIELD

Compliance with the conditions contained on this Title V Permit shall be deemed compliance with the following applicable requirements as of the date of issuance of this permit based upon the criteria following each applicable requirement:

40 CFR Part 60, Subpart A - New Source Performance Standards, General Provisions
This facility is subject to the requirements of this part because they are subject to 40 CFR Part 60, Subparts Dc and GG. In their Title V application, the source has requested that the requirements of Subpart A be

subsumed under the NSR permit requirements.

The District agrees, and asserts that compliance with the conditions on the Title V permit shall be considered compliance with the monitoring, record keeping, and reporting requirements contained in 40 CFR Parts 60.7, 60.8 (with the exception of 60.8(b)), 60.11(with the exception of 60.11(b) and 60.11(e)), and 60.13 (with the exception of 60.13(a), 60.13(d)(2), 60.13 (g), and 60.13(i)).

40 CFR Part 60, Subpart Dc - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

All equipment with the exception of the Cogeneration facilities, the Natural Gas Fired Steam Generators, and the Steam Generators with Scrubber Systems predate this requirement. Although the equipment listed above is subject to the requirements of this part based upon the definition of a "steam generating unit", no requirements (SO_x or PM emission limits) are imposed due to the fact that no heat input is provided by coal, oil, or wood.

40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines

The cogeneration facilities at this facility are subject to the requirements of this NSPS. In addition to the backend control of SCR, the turbine utilizes water injection to control NO_x formation.

The NO_x emission factor from Section 60.332(a)(2) would be 150 ppmvd. This 150 ppmvd limit far exceeds the NZR permit limit of 3.8 lbs NO_x/hr which equates to 17.6 ppmv [(3.8 lbs NO_x/MMBtu)*((MM lbmoles air)/(46.0 lbmole NO_2))*((379 Ft3 Air)/(lbmole air))/((29,700 SDCFM)*(60 M/Hr)) = 17.6 ppmv] established by District Rule 207. Therefore, the NO_x limit from the NSPS will be subsumed under the NSR permit requirements that will be included on the Title V permit.

The SO_2 limit from Section 60.333 would be 150 ppmv. Compliance with this limit is assumed due to these units being fired exclusively on natural gas and based upon the SO_2 limit contained in the NZR permits of 0.1 lb/hr per unit. The SO_2 concentration at this permitted emission level would be 0.33 ppmv [(0.1 lbs SO_2/hr)*((MM lbmoles air)/(64.1 lbmole SO_2))*((379 Ft3 Air)/(lbmole air))/((29,700 SDCFM)*(60 M/Hr)) = 0.33 ppmv]. This value is well below the 150 ppmv SO_2 allowed for in the NSPS. Therefore, the SO_2 emission standard from this NSPS will be subsumed under the NSR permit requirement that will be included on the Title V permit.

The testing and monitoring requirements contained in Sections 60.334 and 60.335 will be subsumed under the testing and monitoring requirements established under the NSR permits that will be included on the Title V permit. This will include the annual emissions testing requirement and the requirement to monitor operations with the use of CEMs.

FEDERALLY ENFORCEABLE EMISSION LIMITS AND STANDARDS

1. The pollutant mass emission rates in the exhaust discharged to the atmosphere from the heat recovery steam generator of Cogeneration Units A and B shall not exceed the following limits [District Rule 207; District Rule 403 limit of 38.2 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and 350 ppm, and SO_2 limit of 2000 ppmv; 40 CFR Part 60, Subpart GG NO_x limit of 150 ppm and SO_2 limit of 150 ppm]:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	3.8	90.7

Carbon Monoxide (CO)	7.0	168.8
Ammonia (NH_3)	1.4	33.5
Particulate Matter <10 microns (PM_{10})	0.81	19.3
Volatile Organic Compounds (VOC)	1.0	24.1
Sulfur Dioxide (SO_2)	0.1	1.0

These limits shall not apply during startup, which is not to exceed two hours in length, or shut down, which is not to exceed one hour in length. SCR catalytic controls, water injection and good operating practices shall be used to the fullest extent during startup to minimize pollutant emissions.

2. Oxides of nitrogen, as NO_2, in the exhaust discharged to the atmosphere from the heat recovery steam generator of Cogeneration Unit C shall not exceed 9 ppmvd, calculated as a clock hour average at 15 percent O_2, dry. [District Rule 207; 40 CFR Part 60, Subpart GG NO_x limit of 150 ppm]

3. The pollutant mass emission rates in the exhaust discharged to the atmosphere from the heat recovery steam generator of Cogeneration Unit C shall not exceed the following limits [District Rule 207; District Rule 403 limit of 38.2 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and 350 ppm, and SO_2 limit of 2000 ppmv; 40 CFR Part 60, Subpart GG NO_x limit of 150 ppm and SO_2 limit of 150 ppm]:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	3.3	79.8
Carbon Monoxide (CO)	7.0	168.8
Ammonia (NH_3)	1.4	33.5
Particulate Matter <10 microns (PM_{10})	0.81	19.3
Volatile Organic Compounds (VOC)	1.0	24.1
Sulfur Dioxide (SO_2)	0.1	1.0

These limits shall not apply during startup, which is not to exceed two hours in length, or shut down, which is not to exceed one hour in length. SCR catalytic controls, water injection and good operating practices shall be used to the fullest extent during startup to minimize pollutant emissions.

4. The pollutant mass emission rates in the exhaust discharged to the atmosphere from Steam Generators 30-12 and 30-13 shall not exceed the following limits [District Rule 207; District Rule 403 limit of 0.82 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	3.1	65.0
Carbon Monoxide (CO)	0.21	5.0
Particulate Matter <10 microns (PM_{10})	0.29	7.0
Volatile Organic Compounds (VOC)	0.04	1.0
Sulfur Dioxide (SO_2)	0.03	0.8

5. The emissions of oxides of nitrogen, as NO_2, in the exhaust discharged to the atmosphere from Steam Generators 30-12 and 30-13 shall not exceed 40 ppmvd, calculated at 3 percent O_2, dry. [District Rule 207; District Rule 404 NO_x limit of 350 ppm]

6. The pollutant mass emission rates in the exhaust discharged to the atmosphere from Steam Generators 22-1 through 22-4 and 30-1 through 30-5 shall not exceed the following limits [District Rule 207; District Rule 403 limit of 0.82 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Oxides of Nitrogen (NO_x)	0.93	22.3
Carbon Monoxide (CO)	2.51	60.4
Particulate Matter <10 microns (PM_{10})	0.65	15.5
Volatile Organic Compounds (VOC)	0.08	1.9
Sulfur Dioxide (SO_2)	0.18	4.4

7. The emissions of oxides of nitrogen, as NO_2, in the exhaust discharged to the atmosphere from Steam Generators 22-1 through 22-4 and 30-1 through 30-5 shall not exceed 9 ppmvd, calculated at 3 percent O_2, dry. [District Rule 207]

8. The emissions of carbon monoxide in the exhaust discharged to the atmosphere from Steam Generators 22-1 through 22-4 and 30-1 through 30-5 shall not exceed 40 ppmvd, calculated at 3 percent O_2, dry. [District Rule 207]

9. The combined pollutant mass emission rate for Steam Generators 30-6 and 30-10A shall not exceed the following limits [District Rule 207; District Rule 403 limit of 11.6 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and 350 ppm, and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Sulfur Dioxide (SO_2)	19.00	456.0
Oxides of Nitrogen (NO_x)	12.50	300.0
Carbon Monoxide (CO)	0.16	4.0
Particulate Matter <10 microns (PM_{10})	11.0	264.0
Volatile Organic Compounds (VOC)	9.05	217.2

10. The pollutant mass emission rate for Steam Generator 30–9 shall not exceed the following limits [District Rule 207; District Rule 403 limit of 11.6 lbs PM_{10}/hr; District Rule 404 NO_x limit of 140 lbs/hr and 350 ppm, and SO_2 limit of 2000 ppmv]:

Pollutant	Lbs/Hour	Lbs/Day
Sulfur Dioxide (SO_2)	6.33	152.0
Oxides of Nitrogen (NO_x)	6.25	150.0
Carbon Monoxide (CO)	0.08	2.0
Particulate Matter <10 microns (PM_{10})	0.50	12.0
Volatile Organic Compounds (VOC)	2.14	51.4

11. Total produced gas which bypasses the desulfurization plant combusted in steam generator 30-9 shall not exceed 1.0 MMCFD. [District Rule 207]

12. Total produced gas which bypasses the desulfurization plant combusted in steam generators 30-6 and 30-

10A shall not exceed 1.5 MMCFD for each unit, and shall not exceed 2.8 MMCFD for both units combined. [District Rule 207]

13. The scrubber effluent water pH shall be maintained at 6.6 or higher. [District Rule 207]

14. The minimum scrubber water flow rate for the scrubber serving Steam Generators 30-6 and 30-10A shall be 700 gallons per minute. [District Rule 207]

15. The minimum scrubber water flow rate for Steam Generator 30-9 shall be 200 gallons per minute. [District Rule 207]

16. The cogeneration facilities and Steam Generators 22-1 through 22-4, 30-1 through 30-5, 30-12 and 30-13 shall only be fired on natural gas or treated produced gas discharged from the SulFerox Desulfurization Unit. [District Rule 207]

17. The H_2S concentration in the treated produced gas discharged from the SulFerox Desulfurization Unit shall not exceed 0.00152 pounds of H_2S per 1,000 cubic feet of gas (1 grain/100 SCF). [District Rule 207]

18. No produced gas shall bypass the SulFerox Desulfurization Unit unless it is routed to steam generators with scrubbers in full operation or to the SulfaTreat system prior to incineration. [District Rule 207]

19. The heat input rate to the Recovery Gas Treatment Plant flare shall not exceed 24.0 MMBtu/Hr. [District Rule 207]

20. Emissions from the flare shall not exceed the following limits: [District Rule 207]

Pollutant	Emission Level
NO_x	0.133 lbs/MMBtu
CO	0.37 lbs/MMBtu
VOC	0.0648 lbs/MMBtu
SO_2	0.2% by volume (2,000 ppmv)

21. The flare combustion temperature shall be maintained at a minimum of 1400° F within 30 minutes of start-up. [District Rule 207]

22. The Recovery Gas Treatment Plant's Sulfatreat system shall have a minimum sulfur removal efficiency of 97%. [District Rule 207]

23. Treated produced gas exiting the Sulfatreat system shall have an H_2S concentration that does not exceed 900 ppm. [District Rule 207]

24. When the Recovery Gas Treatment Plant is operational, Steam Generators 30-6 and 30-10A and their associated scrubber shall not be operational. [District Rule 207]

25. Each of the cogeneration facilities shall undergo no more than one cold startup per day. [District Rule 207]

26. AERA Energy LLC shall maintain a turbine startup protocol for both hot and cold startup, which details the procedures that will be used to minimize the pollutant emissions, and shall amend this protocol based on operating experience. [District Rule 207]

27. Operation of the cogeneration facilities and all steam generators must be conducted in compliance with all data and specifications submitted in the permit applications to the MBUAPCD. [District Rule 207]

28. Pollution Control equipment must be properly maintained and kept in good operating condition. [District Rule 207]

29. The steam generators shall not be fired on produced gas which bypasses the Desulfurization Plant gas unless their specific air pollution control equipment is in full use. [District Rule 207]

30. AERA Energy LLC shall cause to be operated an ambient air monitoring station at a site approved by the District in Southern Monterey County, for PM_{10}, O_3, and standard meteorological parameters on a continuous basis, in accordance with EPA requirements contained in 40 CFR Part 58, and as deemed necessary in accordance with the Air Resources Board guidelines. The air monitoring station instrumentations shall be compatible with the District's daily data retrieval polling methods. [District Rule 207]

31. The operation of the air monitoring station shall continue for the life of the project or until the Air Pollution Control Officer determines that good cause exists to discontinue monitoring. Good cause includes adequate technical justification submitted by the permittee that successfully proves that the continuation of all or part of the monitoring requirement is no longer necessary. [District Rule 207]

32. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity. [District Rule 400]

33. Particulate matter shall not exceed 0.15 grains per standard dry cubic foot in any exhaust stream. [District Rule 403]

34. Sulfur compounds calculated as sulfur dioxide (SO_2) shall not exceed 0.2 percent by volume in any exhaust stream. [District Rule 404]

35. Oxides of Nitrogen, calculated as nitrogen dioxide (NO_2), shall not exceed 140 lbs/hr in any exhaust stream. [District Rule 404]

36. Oxides of Nitrogen, calculated as nitrogen dioxide (NO_2), from all gaseous fuel fired equipment shall not exceed 350 ppmv, calculated at 3 percent O_2, dry. [District Rule 404]

37. The sulfur content on any fuel oil used at the facility shall not exceed 0.5 percent by weight. [District Rule 412]

38. The sulfur content on any gaseous fuel used at the facility shall not contain sulfur compounds, calculated as hydrogen sulfide at standard conditions, in excess of 50 grains per 100 cubic feet. [District Rule 412]

    This condition does not apply to the combustion of produced gas which bypasses the desulfurization plant in the steam generators with scrubbers. [District Rule 413]

39. During maintenance periods, all produced gas must be vented either to the steam generators for incineration or to an alternate approved control system. [District Rule 413]

40. No more than 40 pounds per day of Volatile Organic Compounds shall be discharged from any permit unit using or applying any solvent. [District Rule 416 Adopted 1/17/01]

41. AERA Energy LLC shall operate the storage tank at the Gasoline Dispensing Facility with a permanent submerged fill pipe and a Phase I vapor recovery system which has been certified by the California Air Resources Board. [District Rule 418]

42. AERA Energy LLC shall limit emissions of volatile organic compounds by the use of architectural coatings which comply with the requirements of District Rule 426. [District Rule 426]

43. AERA Energy LLC shall not operate any existing steam drive crude oil production well unless nonmethane hydrocarbon (volatile organic compound) emissions from the wellhead annulus valve are reduced by at least 98 percent by weight. [District Rule 427]

44. Any new steam drive oil production well shall meet the requirements of condition number 43 within four months from the date that the well is defined as a steam drive well. [District Rule 427]

45. AERA Energy LLC shall install and maintain all piping, valves, fittings, and equipment that are a part of the wellhead annulus valve and hydrocarbon control system for any steam drive crude oil well in a no-leak condition. A leak is defined as an emission of gaseous organic (volatile organic) compounds which causes an appropriate analyzer sampling one centimeter from a source to register as high or higher than it would register if sampling a gas composed of 15,000 ppm methane in air. [District Rule 427]

46. AERA Energy LLC shall submit an Operator Management Plan to the Air Pollution Control Officer. This plan shall describe the procedures which AERA Energy LLC intends to follow to comply with the provisions of District Rule 427 and must include at least the following [District Rule 427]:

    a) detailed schedule of inspections, which provides for inspection of each affected component at least once per 12 month period, except that components with moving parts, including periodically manipulated valves, shall be inspected at least quarterly. The schedule shall indicate estimated inspection periods and frequency;

    b) identification of manipulated valves and components with moving parts, which will be inspected quarterly;

    c) repair procedures following leak detection;

    d) identification of critical process units which cannot be immediately shut down for repair of leaks;

    e) identification of any hazard(s) which might affect the safety of inspectors carrying out the provisions of District Rule 427; and

    f) identification of the resource commitment to the program to implement the Operator Management Plan.

    Any modifications to an existing Operator Management Plan relating to changes in inspection or repair procedures must be submitted for, and receive, approval of the Air Pollution Control Officer before they are implemented.

47. AERA Energy LLC shall repair leaks on all piping, valves, fittings, and equipment that are a part of the wellhead annulus valve and hydrocarbon control system for any steam drive crude oil well within the following time frames [District Rule 427 Adopted 12/19/01]:

    a) Leaks exceeding 75,000 ppm shall be repaired to a leak-free condition within 15 working days, with monitoring with an appropriate analyzer to verify the leak-free condition as soon as practicable, but not later than 1 calendar month after the date on which the component is repaired.

    b) Leaks exceeding 15,000 ppm shall be repaired to a leak-free condition within 20 working days, with monitoring with an appropriate analyzer to verify the leak-free condition as soon as practicable, but not later than 1 calendar month after the date on which the component is repaired.

    The Air Pollution Control Officer may grant a 10-day extension to the above repair time frames if the operator demonstrates an adequate necessity for the delay and that sufficient actions will be taken to correct the leak within this time period.

48. The provisions of condition number 47 do not apply to a leaking component which is an essential part of a critical process unit identified in the approved Operator Management Plan, in which case repair shall be accomplished during the next shutdown or process turnaround of the critical process unit, but in no case more than three months from the date of detection. [District Rule 427]

49. No more than 2 percent of the total number of steam drive crude oil production wells may contain an open

ended line. [District Rule 427 Adopted 12/19/01]

50. AERA Energy LLC shall limit emissions of volatile organic compounds during solvent cleaning and degreasing operations pursuant to the requirements of District Rule 433. [District Rule 433]

51. AERA Energy LLC shall operate the dispenser at the Gasoline Dispensing Facility with a Phase II vapor recovery system which has been certified by the California Air Resources Board. [District Rule 1002]

52. AERA Energy LLC shall comply with the requirements of Sections 61.145 through 61.147 of the National Emission Standard for Asbestos for all demolition and renovation projects. [40 CFR Part 61, Subpart M]

53. Upon detection of an excursion as defined in condition number 81, AERA Energy LLC shall restore the emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR Part 64]

54. AERA Energy LLC shall submit a Compliance Assurance Monitoring Quality Improvement Plan (QIP) to the District as specified in 40 CFR §64.8 if the accumulation of excursions monitored under condition number 81 exceed 5 percent of the pollutant-specific emissions unit's operating time for a reporting period. [40 CFR Part 64]

55. AERA Energy LLC shall comply with the requirements of 40 CFR Part 68 - Risk Management Plans. AERA Energy LLC shall submit a Risk Management Plan (RMP) if the facility becomes subject to the requirements of Part 68. [40 CFR Part 68]

56. AERA Energy LLC shall comply with the requirements of 40 CFR Part 82 - Protection of Stratospheric Ozone. [40 CFR Part 82]

TESTING REQUIREMENTS AND PROCEDURES

57. An annual performance test of each cogeneration facility shall be conducted during October of each year. AERA Energy LLC shall conduct performance tests in accordance with EPA Method 20 or CARB Method 100 for NO_x and O_2, EPA Method 10 or CARB Method 100 for CO, EPA Method 18 or CARB Method 100 for hydrocarbons, the collection method specified in BAAQMD Method 1B and the analysis specified in EPA Method 350.3 for ammonia to verify compliance with condition numbers 1, 2 and 3. AERA Energy LLC shall furnish the District written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to the District no later than 30 days prior to testing, and District notification at least 10 days prior to the actual date of testing shall be provided so that a District observer can be present. The compliance test shall include, but not be limited to, the determination of the following parameters [District Rule 207]:

a) Oxides of Nitrogen, as NO_2: ppmv at 15% O_2, dry and lb/hr.

b) Carbon Monoxide: ppmv at 15% O_2, dry and lb/hr.

c) Ammonia: ppmv at 15% O_2, dry and lb/hr.

d) Volatile Organic Compounds (VOC): ppmv and lb/hr.

and the following process parameters:

e) Fuel(s) being fired, rate (SDCFM) and proportion of each.

f) Electricity generated during the test.

g) Ammonia injected in lb/hr, NH_3/Inlet NO_x mole ratio, and verification of ammonia slip calculation used in weekly calculation.

h) Water injection rate and water to fuel ratio.

If the testing cannot be completed during the month of October and if AERA Energy LLC can establish that the cogeneration facility was not operating for a period of time that could have allowed the testing to be completed, the testing can be delayed, such that it is conducted within thirty days from the date on which the turbine is restarted, and comply with the following notification requirements:

A) AERA Energy LLC must notify the District that they will be unable to meet the October testing requirement as soon as it becomes known, but in no event later than October 30.

B) AERA Energy LLC must provide the District with at least five days prior notification of the anticipated date the cogeneration facility will be restarted.

C) AERA Energy LLC must provide the District with the time and date of cogeneration facility startup within 24 hours after the actual startup.

58. An annual performance test of each steam generator operated on natural gas and/or produced gas treated by the desulfurization plant during the year shall be conducted prior to January 1 of each year. AERA Energy LLC shall conduct performance tests in accordance with EPA Method 7E or CARB Method 100 for NO_x, EPA Method 10 or CARB Method 100 for CO, EPA Method 3A or CARB Method 100 for O_2 to verify compliance with condition numbers 4 through 8. AERA Energy LLC shall furnish the District written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to the District no later than 30 days prior to testing, and District notification at least 10 days prior to the actual date of testing shall be provided so that a District observer can be present. The compliance test shall include, but not be limited to, the determination of the following parameters [District Rule 207]:

A) Carbon Monoxide: ppmv at 3% O_2, dry and lb/hr.

B) Oxides of Nitrogen, as NO_2: ppmv at 3% O_2, dry and lb/hr.

and the following process parameter:

C) Fuel(s) being fired, rate (SDCFM) and proportion of each.

59. Performance tests of each operational steam generator with scrubber shall be conducted quarterly. AERA Energy LLC shall conduct performance tests in accordance with EPA Method 20 or CARB Method 100 for SO_2, NO_x and O_2, EPA Method 10 or CARB Method 100 for CO, and EPA Method 18 or CARB Method 100 for hydrocarbons to verify compliance with condition numbers 9 through 15. AERA Energy LLC shall furnish the District written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to the District no later than 30 days prior to testing, and District notification at least 10 days prior to the actual date of testing shall be provided so that a District observer can be present. The compliance test shall include, but not be limited to, the determination of the following parameters [District Rule 207]:

a) Sulfur Dioxide: ppmv at 3% O_2, dry, lb_m/hr, and lb_m/MMCF.

b) Oxides of Nitrogen, as NO_2: ppmv at 3% O_2, dry, lb_m/hr, and lb_m/MMCF.

c) Carbon Monoxide: ppmv at 3% O_2, dry, lb_m/hr, and lb_m/MMCF.

d) Total hydrocarbons and volatile organic compounds (VOC): ppmv, lb_m/hr, and lb_m/MMCF.

and the following process parameters:

e) pH of the scrubber water feed and effluent, the scrubber water flow rate, and for Unit 30-9 only, the number of trays in the scrubber as tested.

f) Fuel(s) being fired, rate (SDCFM) and proportion of each.

In the second and fourth calendar quarter each year, in addition to the tests specified above, testing shall be completed to determine the following exhaust parameters:

g) Total Particulate: gr/sdcf, lb_m/hr, lb_m/MMCF, and PM_{10} fraction.

The quarterly tests shall be conducted such that the exhaust parameters, as specified within this condition, are determined for steam generators 30-6 and 30-10A at least once per calendar year.

60. AERA Energy LLC shall conduct testing of the H_2S concentration downstream of the SulFerox Desulfurization Unit and Sulfatreat Vessels not less than once every 24 hours with the use of gas detector tube sampling as approved by the District to verify compliance with condition numbers 17 and 23. [District Rules 207& 218]

61. Testing shall be completed upstream and downstream of the Sulfatreat Vessels on an annual basis to determine the sulfur content and the higher heating value of the treated gas to verify compliance with condition number 22. AERA Energy LLC shall conduct testing using a grab sample analysis by GC-FPD/TCD performed in the laboratory and in accordance with EPA Method 19. [District Rules 207 & 218]

62. No testing is specified for the generic (Rule 400) opacity requirement from condition number 31 while firing on natural or produced gas. When firing on fuel oil continuously for a period of 120 hours and at intervals of seven (7) days during continuing operation on fuel oil , AERA Energy LLC shall conduct testing in accordance with the methodology contained in EPA Method 9 and the averaging/aggregating period contained in District Rule 400 to verify compliance with condition number 31. [District Rule 218]

63. No testing is specified for the (Rule 403) particulate matter emission standard from condition number 33. The fuel burning equipment is assumed to be in compliance with the particulate matter emission standard based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number 33, AERA Energy LLC should conduct testing in accordance with the methodology contained in EPA Method 5. [District Rule 218]

64. No testing is specified for the (Rule 404) sulfur concentration limit in condition number 34. The fuel burning equipment is assumed to be in compliance with this sulfur concentration limit based upon the engineering calculations contained in the evaluation report. If testing is conducted for condition number 34, AERA Energy LLC should conduct testing in accordance with the methodology contained in EPA Method 6 or CARB Method 100. [District Rule 218]

65. No testing is specified for the (Rule 404) NO_x (oxides of nitrogen) limit in condition numbers 35 and 36. The fuel burning equipment is assumed to be in compliance with these NO_x limits based upon the engineering calculations contained in the evaluation report. If testing is conducted for conditions number 35 and 36, AERA Energy LLC should conduct testing in accordance with the methodology contained in EPA Method 7 or CARB Method 100. [District Rule 218]

66. Testing of all fuel oil delivered to the facility shall be conducted prior to or upon receipt of the fuel oil, or in lieu of testing a manufacturers certification of the sulfur content of the fuel oil shall be supplied at the time of delivery. AERA Energy LLC shall conduct testing in accordance with ASTM D1552-83, ASTM D1266-87 or ASTM D2622-87 or shall receive certification as to the sulfur content of the fuel oil from the manufacturer to verify compliance with condition number 37. AERA Energy LLC shall furnish the District the certification or written results of the test prior to firing the fuel oil, but in no case later than thirty (30) days of completion. [District Rule 218]

67. An annual performance test of each steam generator firing produced gas which bypasses the desulfurization plant shall be conducted prior to January 1 of each year. AERA Energy LLC shall conduct performance tests in accordance with EPA Methods 2, 2A, 2C, or 2D for measuring flow rates and EPA Methods 18, 25, 25A, or 25B for measuring the total gaseous organic concentrations at the inlet and outlet of the control device to verify compliance with condition number 43. AERA Energy LLC shall furnish the District written results of such performance tests within sixty (60) days of the test completion. A testing protocol shall be submitted to the District no later than 30 days prior to testing, and District notification at least 10 days prior to the actual date of testing shall be provided so that a District observer can be present. [District Rule 218, District Rule 427]

68. Annual leak testing shall be conducted according to the schedule contained in the Operator Management Plan required in condition number 44. AERA Energy LLC shall conduct testing in accordance with EPA Method 21 for Determination of Volatile Organic Compound Leaks to verify compliance with condition numbers 45 and 47. [District Rule 427]

MONITORING AND RECORD KEEPING REQUIREMENTS

69. Continuous emission monitoring systems must be calibrated and operated to measure the cogeneration facilities exhaust stack for NO_x, CO and O_2. The system shall continuously record the NO_x and CO concentrations corrected to a value of 15 percent O_2, dry, and the NO_x and CO mass emission rates in pounds per hour and pounds per day. The system shall meet all the requirements of Rule 213 and shall be certified at least once per year. [District Rule 207; District Rule 213; 40 CFR Part 64]

    Any breakdown of the CEM system shall be reported to the District within 1 hour of the occurrence, and the CEM defect shall be repaired within 96 hours or the monitored equipment shall be shut down until such repair is completed.

70. The mole ratio of injected ammonia to the SCR inlet NO_x shall be recorded and the ammonia slip shall be calculated by a District approved method and recorded no less than once per seven (7) working days when the cogeneration facility is operating. If the cogeneration facility operates four (4) consecutive days but less than seven (7) the recording shall be made at least one time unless unscheduled maintenance prevents taking the reading and the District is notified within 5 days. The ammonia slip data used to determine slip shall be maintained in a log and kept on site. [District Rule 207]

71. A continuous monitoring system must be operated to monitor and record the fuel consumption and the mass ratio of water to fuel being fired in the cogeneration facilities' turbines on an average hourly basis. This data shall be maintained in a log and kept on site to calculate the mass ratio of water to fuel consumption on an average hourly basis as required by the District. This system must be accurate to within ± 5 percent. [District Rule 207; 40 CFR Part 60, Subpart GG]

72. Instrumentation must be operated to measure the SCR catalyst inlet temperature and pressure differential across the SCR catalyst. [District Rule 207]

73. AERA Energy LLC shall monitor and record all startup, shutdown, and operational profiles of the cogeneration facilities in a log maintained on site. [District Rule 207]

74. Instrumentation shall continuously record the combustion temperature during flare operation. [District Rule 207]

75. AERA Energy LLC shall maintain daily records of the quantity of produced gas which bypasses the Desulfurization plant combusted in each Steam Generator and the flare. [District Rule 207]

76. AERA Energy LLC shall maintain records for each maintenance period which include time and date started and completed, as well as the amount of produced gas processed during the period. [District Rule 207]

77. AERA Energy LLC shall maintain daily records to document compliance with condition number 40. [District Rule 416 Adopted 4/20/94]

78. AERA Energy LLC shall maintain records showing the quantity of all gasoline delivered to the gasoline dispensing facility. [District Rule 418]

79. AERA Energy LLC shall maintain a log covering at least the preceding 12-month period of all inspections performed to verify compliance with condition numbers 45 and 47. The log shall include inspection dates, components found leaking and emission levels (in ppm) and repair and verification dates. [District Rule 427]

80. AERA Energy LLC shall maintain a monthly log of the facility-wide total volume of make-up solvent used, and waste solvent disposed of or recycled, for all cleaning devices using volatile organic compounds for solvent cleaning and degreasing. [District Rule 433]

The record keeping provisions of this condition do not apply to remote reservoir cold cleaners which are serviced by an independent contractor. For such remote cold cleaners, evidence of service shall be maintained.

81. AERA Energy LLC shall maintain the following Compliance Assurance Monitoring (CAM) as specified below [40 CFR Part 64]:

a) The pH of the scrubber water and the water recycle rate for the Scrubber serving Steam Generators 30-6 and 30-10A shall be monitored and recorded at least once per day on any day that the Scrubber is operating. Excursions from the monitoring parameters are defined as a pH of less than 6.6 and/or a water recycle rate of less than 700 gpm. A pH meter and a flow measuring device will be utilized for the monitoring.

b) The recovery gas flow rate and the scrubber water inlet flow rate for the Scrubber serving Steam Generator 30-9 shall be monitored and recorded at least once per day on any day that the Scrubber is operating. A minimum ratio of these parameters will be established to assure that the effluent pH is at least 4.6. A performance test shall be conducted to verify compliance and to define excursions from the monitoring parameters and the monitoring methodology and shall be submitted to the District within 45 days of start-up of this equipment.

Within 30 days of completion of the performance testing, AERA Energy shall submit to the District an application for modification of the CAM parameters and methodology associated with the Scrubber serving Steam Generator 30-9.

c) The control of produced gas shall be monitored and recorded at least once per day. An excursion shall be defined as any period of time that the recovery gas exceeds 30 psi at Gas Plant #2 after the inlet pressure regulators, when the SO_2 scrubber is operating. A pressure gauge will be used for the monitoring.

82. As applicable AERA Energy LLC shall maintain the following general records of required monitoring information [District Rule 218]:

A) the date and time of sampling or measurements;
B) the date(s) analyses were performed;

C) the company or entity that performed the analyses;
D) the analytical techniques or methods used;
E) the results of such analyses;
F) the operating conditions existing at the time of sampling or measurement; and
G) the records of quality assurance for continuous monitoring systems (including, but not limited to quality control activities, audits, and calibration drift checks) and source testing methods.

83. AERA Energy LLC shall maintain records on the occurrence and duration of any startup, shutdown, or malfunction in the operation of the pollution control equipment under this permit. [District Rule 218]

84. AERA Energy LLC shall retain records of all required monitoring data and support information as required by condition numbers 57 through 83 for a period of at least five (5) years from the date of the monitoring, sample collection, measurement, report, and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit pursuant to condition numbers 85 through 92. [District Rule 218]

REPORTING REQUIREMENTS

85. AERA Energy LLC shall submit to the Air Pollution Control District a written report each month on the cogeneration facilities which shall include [District Rule 207]:

a) time intervals, date, and magnitude of excess emissions;

b) nature and cause of the excess emission, and corrective actions taken;

c) time and date of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; and

d) a negative declaration when no excess emissions occurred.

86. AERA Energy LLC shall submit to the Air Pollution Control District a written report each month on the produced gas treated by the SulFerox Desulfurization Unit which shall include [District Rule 207]:

a) average daily H_2S concentration, ppm;

b) average daily gas rate, MCFD; and

c) date, time, duration, maximum concentration, average concentration, and volume of gas for all periods during which the H_2S concentration exceeds the limit expressed in condition 17.

87. AERA Energy LLC shall submit to the Air Pollution District by February 15, an annual report containing the annual fuel usage of all equipment under this permit; and the annual natural gas fuel consumption, annual electricity generated, and annual emissions of NO_x, CO, VOC, and ammonia from the cogeneration

facility for the preceding calendar year. [District Rule 207]

88. AERA Energy LLC shall report all breakdowns which result in the inability to comply with any emission standard or requirement contained on this permit to the Air Pollution Control Officer (APCO) within 1 hour of the occurrence; this one hour period may be extended up to six hours for good cause by the APCO. The APCO may elect to take no enforcement action if AERA Energy LLC demonstrates to the APCO's satisfaction that a breakdown condition exists.

The estimated time for repair of the breakdown shall be supplied to the APCO within 24 hours of the occurrence and a written report shall be supplied to the APCO within 5 days after the occurrence has been corrected. This report shall include at a minimum [District Rule 214]:

a) a statement that the condition or failure has been corrected and the date of correction; and

b) a description of the reasons for the occurrence; and

c) a description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future; and

d) an estimate of the emissions caused by the condition or failure.

89. AERA Energy LLC shall submit an annual report to the District by May 1 of each year which includes a tabulation of the record keeping required under condition number 79 and a schedule of repair for leaking components, and a currently updated version of the Operator Management Plan as required by District Rule 427 and condition number 46. [District Rule 427]

90. AERA Energy LLC shall submit quarterly reports to the District of all wells connected to a vapor recovery system. [District Rule 427]

91. AERA Energy LLC shall submit quarterly reports to the District, in a District approved format, within 45 days from the end of the quarter and these shall include [District Rules 213 & 218]:

A) the time intervals, date and magnitude of excess emissions, nature and cause of the excess (if known), corrective actions and preventative measures adopted; and

B) the averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant in question; and

C) time and date of each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of system repairs and adjustments; and

D) all information pertaining to any monitoring as required by the permit; and

E) a negative declaration specifying when no excess emissions occurred; and

F) a summary of actual monthly emissions from the CEM for all equipment which operated during the quarter.

92. AERA Energy LLC shall submit an annual compliance certification report to the District and U.S. EPA, in a District approved format, no later than February 15 for the period of January 1 through December 31 of the preceding year. [District Rule 218]

This report shall include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report and shall include at a minimum:

A) identification of each term or condition of the permit that is the basis of the certification; and

B) the compliance status; and

C) whether compliance was continuous or intermittent; and

D) the method(s) used for determining the compliance status of the source, currently and over the reporting period.

GENERAL CONDITIONS

93. AERA Energy LLC shall comply with all conditions of this federal operating permit. Any noncompliance with a permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [District Rule 218]

94. In an enforcement action, the fact that AERA Energy LLC would have to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit is not a defense. [District Rule 218]

95. This permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by the District. The filing of a request by AERA Energy LLC for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 218]

96. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. [District Rule 218]

97. AERA Energy LLC shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, AERA Energy LLC

shall also furnish to the District copies of records required to be retained by this permit. [District Rule 218]

98. For applicable requirements that will become effective during the permit term, AERA Energy LLC shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. [District Rule 218]

99. Any document submitted to the District pursuant to this permit shall contain certification by the responsible official of truth, accuracy and completeness. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. AERA Energy LLC shall promptly, upon discovery, report to the District a material error or omission in these records, reports, plans, or other documents. [District Rule 218]

100. AERA Energy LLC shall report any violation of any requirement contained in this permit to the District within 96 hours after such occurrence. The violation report shall include the time intervals, date and magnitude of excess emissions; nature and cause of the excess (if known), corrective actions and preventive measures adopted. [District Rule 218]

101. Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, record keeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with. [District Rule 218]

102. For this federal operating permit to remain valid through the permit term of five years from the date of issuance, AERA Energy LLC shall pay an annual emission fee based upon the requirements of District Rule 308. [District Rule 218]

103. AERA Energy LLC shall have available at the facility at all times a copy of this federal operating permit. [District Rule 218]

104. For protection from enforcement action based upon an emergency, as defined in District Rule 218, the responsible official for AERA Energy LLC shall submit to the District relevant evidence which demonstrates [District Rule 218]:

A) an emergency occurred; and

B) that AERA Energy LLC can identify the cause(s) of the emergency; and

C) that the facility was being properly operated at the time of the emergency; and

D) that all steps were taken to minimize the emissions resulting from the emergency; and

E) within two working days of the emergency event, AERA Energy LLC provided the District with a description of the emergency and any mitigating or corrective actions taken.

105. Upon presentation of credentials, AERA Energy LLC shall allow the District, the ARB, the EPA, or an authorized representative, to perform the following [District Rule 218]:

A) enter upon the premises where the federal operating permit source is located or in which any records are required to be kept under the terms and conditions of this federal operating permit;

B) to have access to and copy any records required to be kept under the terms and conditions of this federal operating permit;

C) to inspect any equipment, operation, or process described or required in this federal operating permit; and,

D) to sample emissions from the source.

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